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ABSTRACT

Teacher incentive programs, including merit pay and career ladders, have been the focus of a great deal of debate among teachers, teachers' unions, administrators, and others in the education community. Teacher incentive programs have the potential to affect over 2 million public school teachers. This report on a national survey of public schools conducted in the 1984-85 school year, is designed to provide baseline data on teacher incentive programs that current and future research can use to estimate the changes that may be occurring in this area. The first section of the report discusses characteristics of schools that do and that do not have teacher incentive programs, and the types of programs most and least likely to be present in schools. The second section examines characteristics of teachers who work in schools with and without incentive programs. The third section explores the usefulness of the administrators' ratings on the effectiveness of each incentive program. The following are samples of the findings discussed in this report: (1) In 1984-85, about 38 percent of all public schools offered one or more teacher incentive programs, compared with 18 percent in school year 1983-84; (2) Less than half (42 percent) of all public school teachers worked in schools which offered one or more teacher incentive program; (3) Large schools are more likely to offer teacher incentive programs than small schools; (4) Schools with higher proportions of minority students are more likely to offer incentive programs than schools with lower proportions of minority students; (5) Minority teachers are more likely to work in schools offering teacher incentive programs than white, non-Hispanic teachers. Appended technical notes provide information on data gathering and school and teacher variables taken into consideration by the study. Ten tables and six figures are provided. (JD)

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NATIONAL CENTER FOR EDUCATION STATISTICS

Survey Report

April 1989

Teacher Incentive Programs in the Public Schools

Sharon A. Bobbitt
Elementary and Secondary Education Statistics Division

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
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Highlights

Teacher incentive programs have the potential to affect over 2 million public school teachers in over 80,000 public schools in the Nation. The Public School Survey, conducted during the 1984-85 school year, can provide baseline data on the preponderance of these programs.

The following are samples of the findings discussed in this report:

- In 1984-85, about 38 percent of all public schools offered one or more teacher incentive programs, compared with 18 percent in school year 1983-84.
- Less than half (42 percent) of all public school teachers worked in schools which offered one or more teacher incentive program.
- Large schools are more likely to offer teacher incentive programs than small schools.
- Schools with higher proportions of minority students are more likely to offer incentive programs than schools with lower proportions of minority students.
- Minority teachers are more likely to work in schools offering teacher incentive programs than white, non-Hispanic teachers.

Table of Contents

Introduction 1

Schools with Incentive Programs 3

Teachers in Schools with Incentive Programs 11

Administrators Rate Specific Programs 13

Conclusion 14

Bibliography 15

Technical Notes 16

- The Public School Survey 16
- Weighting of Observations 16
- Variable Definitions 17
  - School variables 17
    - Incentive programs 17
    - Teaching level 17
    - School size 17
    - Size of LEA 17
    - Region 18
    - Percent minority 18
    - FTE teacher:student ratio 19
    - FTE teacher:FTE instructional aide ratio 19
  - Teacher variables 19
    - Sex 19
    - Minority status 19
    - Highest degree earned 19
    - Undergraduate major 20
    - Years of experience 20
    - Training 20
- Accuracy of Estimates 20
- Significance Tests 21

For More Information 21

Acknowledgments 21

List of figures

Figure 1.--Percent of schools that use one or more incentive programs, by level of instruction 5
Figure 2.--Percent of schools that use one or more incentive programs, by school size 6
Figure 3.--Percent of schools that use one or more incentive programs, by LEA size 7
Figure 4.--Percent of schools that use one or more incentive programs, by minority enrollment 9
Figure 5.--Percent of schools that use one or more incentive programs, by region 10
Figure 6.--Percent of teachers in schools that use one or more incentive programs, by minority status 12

List of tables

Table 1.--Number and percent of public schools using one or more teacher incentive programs, by selected school characteristics: 1985 22
Table 2.--Number and percent of public schools using specific incentive programs, by selected school characteristics: 1985 23
Table 3.--Number and percent of public school teachers in schools using one or more teacher incentive programs, by selected teacher characteristics: 1985 24
Table 4.--Number and percent of public school teachers in schools using specific incentive programs, by selected teacher characteristics: 1985 25
Table 5.--Administrators' ratings of the effectiveness of specific teacher incentive programs, by purpose of incentive: 1985 26
Table 6.--Standard errors for number and percent of public schools using one or more teacher incentive programs, by selected school characteristics: 1985 (table 1) 27
Table 7.--Standard errors for number and percent of public schools using specific incentive programs, by selected school characteristics: 1985 (table 2) 28
Table 8.--Standard errors for number and percent of public school teachers in schools using one or more teacher incentive programs, by selected teacher characteristics: 1985 (table 3) 29
Table 9.--Standard errors for number and percent of public school teachers in schools using specific incentive programs, by selected teacher characteristics: 1985 (table 4) 30
Table 10.--Standard errors for administrators' ratings of the effectiveness of specific teacher incentive programs, by purpose of incentive: 1985 (table 5) 31

Teacher Incentive Programs in the Public Schools

Introduction

Teacher incentive programs, including merit pay and career ladders, have been the focus of a great deal of debate among teachers, teachers' unions, administrators, and others in the education community. Yet very little information is known about the extent to which various teacher incentive programs are offered in the public schools or how effective they appear to be. The National Center for Education Statistics' (NCES) Public School Survey, conducted in school year 1984-85, can provide the answers to such basic research questions as:

1. What proportion of public schools offer incentive programs to their teachers?

2. What are the characteristics of those schools that offer incentive programs versus those that do not offer them?

3. How do administrators rate the effectiveness of each type of incentive program?

With the focus on educational reform engendered by the 1983 publication of *A Nation at Risk* and continuing to the present, the number and type of teacher incentive programs used in the public schools may have already changed substantially since 1985. In addition, the Public School Survey is limited in its ability to address many of the issues related to the use and effectiveness of teacher incentive programs. The survey asks broad questions about a restricted range of programs with little detail of how or in what context those programs were implemented. Because the implementation of a program has a strong bearing on the effect of the program,[1] the lack of this information may mask real differences in effectiveness among the programs. This report is designed to provide baseline data on teacher incentive programs that current and future research can use to estimate the changes that may be occurring in this area.

One indication of this change during the early stages of the reform movement may be found by examining the results of the Teacher Demand and Shortage Survey, conducted by NCES in school year 1983-84. As reported in the 1985 edition of *The Condition of Education*, 18.2 percent of public school districts and 17.6 percent of private schools indicated that they offered one or more teacher incentive programs. Almost 40 percent of public schools offered such programs in school year 1984-85.

Teacher incentive programs may be viewed from various perspectives. Policymakers and school or school district officials may be interested in the cost, effectiveness, and potential benefit of a program. A teacher[2] may be interested in the monetary benefits or the long-term career implications of a program. Parents

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[1] Southern Regional Education Board, "More Pay for Teachers and Administrators Who Do More: Incentive Pay Programs, 1987" *Career Ladder Clearinghouse*, December 1987, p. 7.

[2] For this report, "teachers" are public school elementary or secondary school teachers who teach in grades K-12 and for whom school level data was available. More information about samples and definitions of key variables is provided in the technical notes at the end of the report.

and concerned citizens may wish to ensure that their tax money is spent in a way that ultimately improves educational outcomes for children.

Incentive programs are expensive,[3] but the public seems to support their use. In 1986, the Carnegie Forum on Education and the Economy sponsored a nationally representative survey of 1,513 adults in which 92 percent of those surveyed favored "rewarding the most capable teachers with greater pay and responsibility in order to keep them in teaching." And the respondents seemed willing to pay for such programs. Over three-quarters of the people surveyed said they would be willing to see a greater share of their income go to taxes if they were guaranteed it would go to education.

Teachers seem to think that increasing salaries is the strategy most likely to attract and retain qualified teachers. The 1985 Metropolitan Life Survey of the American Teacher, *Strengthening the Profession*, found that 94 percent of the teachers surveyed said that "providing a decent salary" would "help a lot in keeping good people in teaching." Additionally, 79 percent of the sample said that "providing compensation to beginning teachers comparable to other professions that require similar training" would "help a lot to attract good teachers." But when asked about merit pay programs, half of the teachers said that it "would not help at all." In 1984, the Metropolitan Life Survey of the American Teacher showed that "teachers think the concept of merit pay *could* work if only there were an objective standard on which a teacher's individual merit could be judged."

The Nation's Governors, with primary constitutional authority over education, have recently taken an active role in enhancing teachers' professionalism. In the 1986 report, *Time for Results*, the National Governors' Association made 11 recommendations "to attract and keep able teachers." Among those related to teacher incentive programs was one supporting the concept of career ladders--to "redesign the structure of the teaching career...[by providing] increasing levels of responsibility and compensation for teachers, with selection criteria based on certified professional competence." The Governors also suggested that teacher incentive programs be aligned with schoolwide student performance.

Although much of the literature on teacher incentive programs focuses on monetary incentives such as merit pay, incentive programs for teachers in the public schools can range from nonmonetary awards such as certificates of recognition, to cash awards, to free retraining. In 1984, Cresap, McCormick, and Paget prepared a report entitled, "Teacher Incentives--A Tool for Effective Management" for the National Association of Secondary School Principals, the National Association of Elementary School Principals, and the American Association of School Administrators. This report defined five categories of incentives that may be used by school districts:

- compensation plans (including merit pay and bonuses),
- career options (including career ladders),
- enhanced professional opportunities (including master teacher plans),
- nonmonetary recognition, and
- improved working conditions.

In addition, the report discussed four purposes for which these types of incentives could be used: to attract high-quality teachers; to retain superior teachers; to motivate effort and improvement; and, to accomplish other community goals.

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[3] Southern Regional Education Board, *op. cit.*, p. 7.

Similar to the typology suggested in the Cresap, McCormick, and Paget report, the Public School Survey asked principals about nine specific types of teacher incentive programs as used for the four purposes. The incentive programs were:

- *cash bonus*--an amount of money given once within an interval of time as an incentive,
- *different step on salary schedule*--the placement of a teacher on a higher step of the salary schedule,
- *free retraining*--training provided by the school system or a related agency to assist in the preparation of teachers who wish to change their teaching field,
- *award/recognition*--nonmonetary awards and recognition for teachers,
- *loan forgiveness*--full or partial forgiveness of a loan for educational purposes for teachers
- *released time*--or releasing teachers from regular duties to enable them to receive training,
- *shared program with industry*--a program in which a local business employs a teacher part time, e.g., a summer job program,
- *extended contract*--a situation in which teachers are paid for an extra month or two, thereby increasing their salaries; and
- *leave of absence with normal step included*--a program which enables teachers to take a leave of absence for professional enrichment without losing a step on the salary schedule.

The administrators were also requested to specify other types of incentive programs in an "other" category.

Each of these ten (including "other") incentive programs could be used in the school for one or more of four purposes listed in the questionnaire: attracting teachers to less desirable locations; retaining experienced teachers; recruiting teachers for fields with shortages; and, rewarding excellence. The administrators were asked to state whether their schools used each incentive program for the stated purpose, and, if so, to rate the use of that program for that purpose as productive, no difference, or counterproductive.

The first section of this report will discuss characteristics of schools that do and do not have teacher incentive programs, and the types of programs most and least likely to be present in schools. The second section will examine characteristics of teachers who work in schools with and without incentive programs. Finally, the third section will explore the usefulness of the administrators' ratings of the effectiveness of each incentive program. All comparisons cited in the text are significant at the .05 level, unless otherwise noted.

Schools with Incentive Programs

- About 38 percent of all public schools offer one or more teacher incentive programs.
- Large schools are more likely to offer teacher incentive programs than small schools.
- Schools with higher proportions of minority students are more likely to offer incentive programs than schools with lower proportions of minority students.

Less than half of public schools in the United States offer any incentive programs for their teachers. Around 38 percent of public schools (about 31,000

schools) have one or more teacher incentive programs. The other 62 percent (about 51,000 schools) have no incentive programs for teachers.

Table 1[4] shows the number and percent of public schools with and without incentive programs, by selected school characteristics. For those schools which offer any incentive programs, the table is further subdivided by the number of programs offered. About three-quarters of the schools which offer any incentive programs offer more than one type of program. Half of the schools offer 2 or 3 programs, almost 20 percent offer 4 or 5 programs, and about 6 percent offer 6 or more programs.

Table 2 shows the percentage of schools (out of the schools using any program) that use each of the specific incentive programs, by selected school characteristics. Because most schools that offer any incentive programs offer more than one, the row totals add up to more than 100 percent. This table is instructive, however, in showing the relative number of schools that use each specific program. For example, relatively few schools use a shared program with industry[5] or a loan forgiveness program (6.1 percent and 9 percent, respectively). Far more schools that offer any incentive programs offer released time, different step on the salary schedule, and award recognition (47.5 percent, 44.8 percent, and 44.3 percent, respectively).

An analysis of schools that do and do not offer incentive programs by level of instruction is shown in figure 1. Secondary schools[6] are more likely to offer incentive programs than combined schools. While only 34 percent of combined schools offered any teacher incentive programs, almost 43 percent of secondary schools offered one or more program. About 37 percent of elementary schools offered incentive programs, but this percentage was not significantly different from the percentage of either secondary or combined schools that offered such programs.

Use of teacher incentive programs clearly varies by size of school and size of the Local Education Agency (LEA or school district). As figure 2 shows, the likelihood of having teacher incentive programs increases with school size. While only 31 percent of schools with under 300 students offer incentive programs, almost 60 percent of schools with more than 1,500 students offer such programs.

Similarly, LEA size is related to the use of teacher incentive programs (see figure 3). Small LEAs of 1 to 5 schools were the least likely to have incentive programs with just over one-quarter of these schools offering programs. Forty-one percent of medium-sized LEAs (6 to 50 schools) offered incentive programs, and almost half (48 percent) of LEAs with more than 50 schools offered one or more teacher incentive program.

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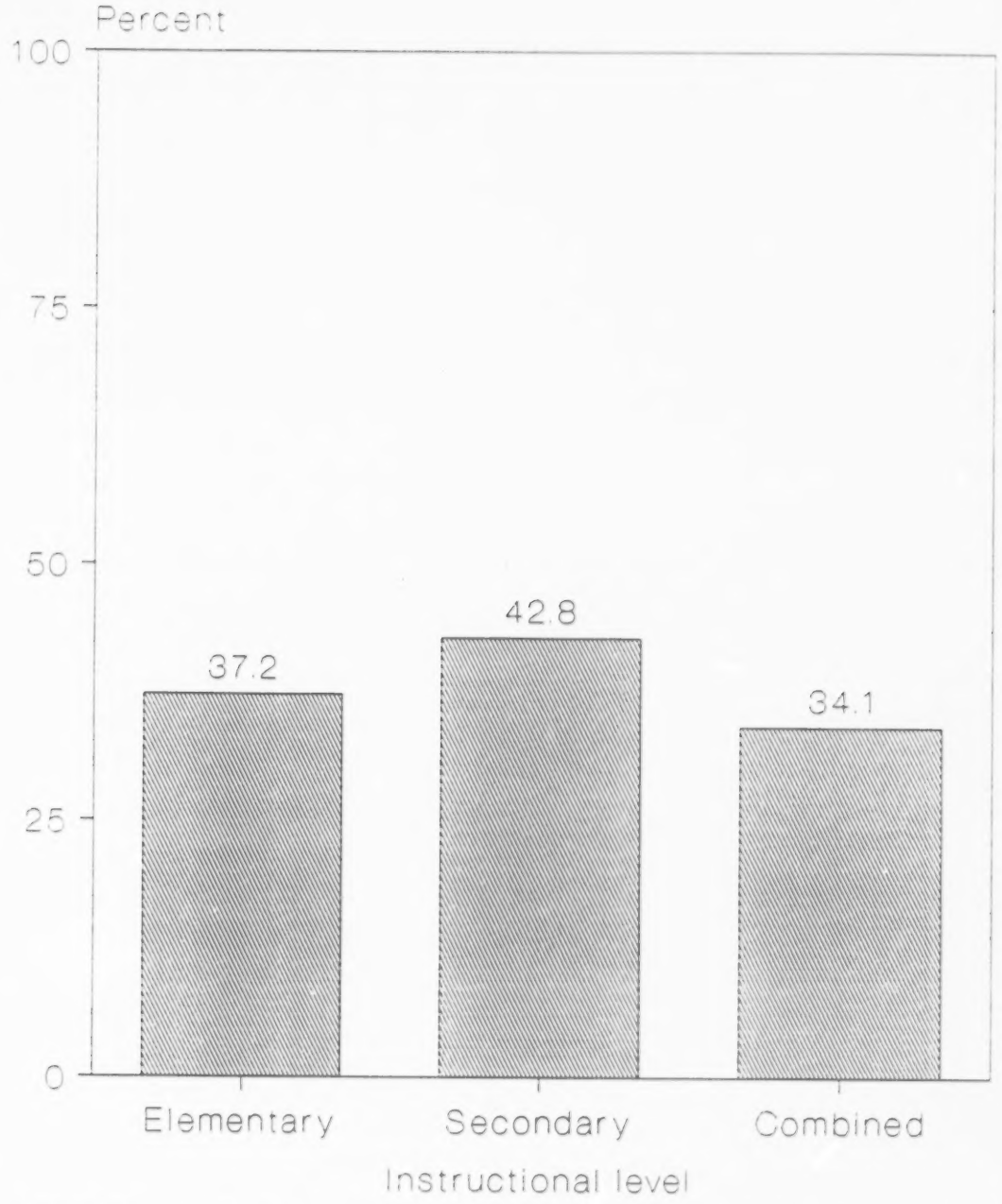
[4] All tables referenced in the text may be found at the end of this report.

[5] A recent survey by the National Center for Education Statistics using the Fast Response Survey System, however, showed that the prevalence of partnerships between the private sector and public elementary and secondary schools increased about 23 percent between school years 1983-84 and 1987-88. See National Center for Education Statistics, "Education Partnerships in Public Schools," *Survey Report*, February 1989.

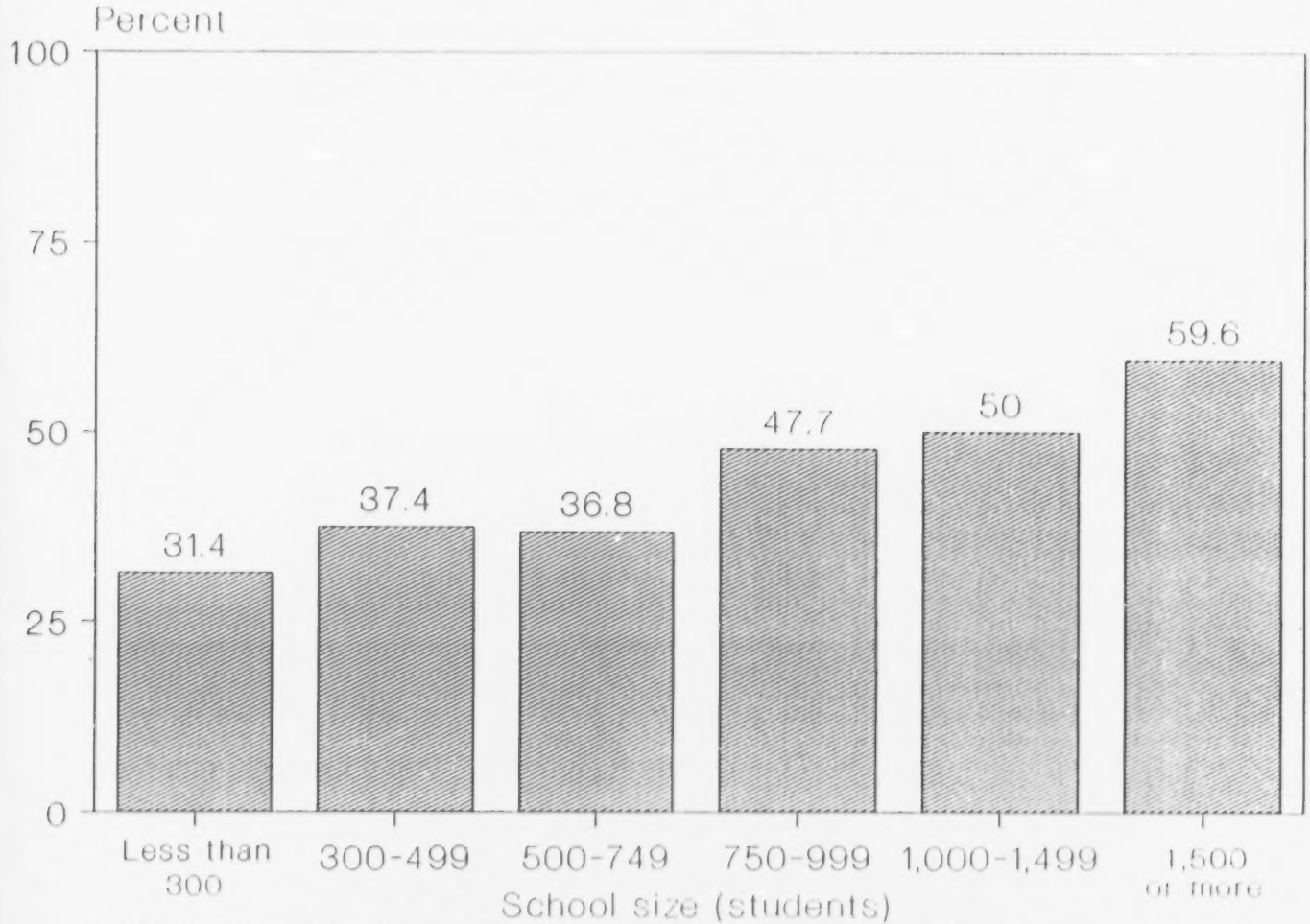
[6] The schools' teaching levels were coded as "elementary" if the highest grade in the school was less than grade nine; schools' teaching levels were coded as "secondary" if the lowest grade was higher than grade eight; other schools' teaching levels were coded as "combined."

Figure 1.--Percent of schools that use one or more incentive programs, by level of instruction



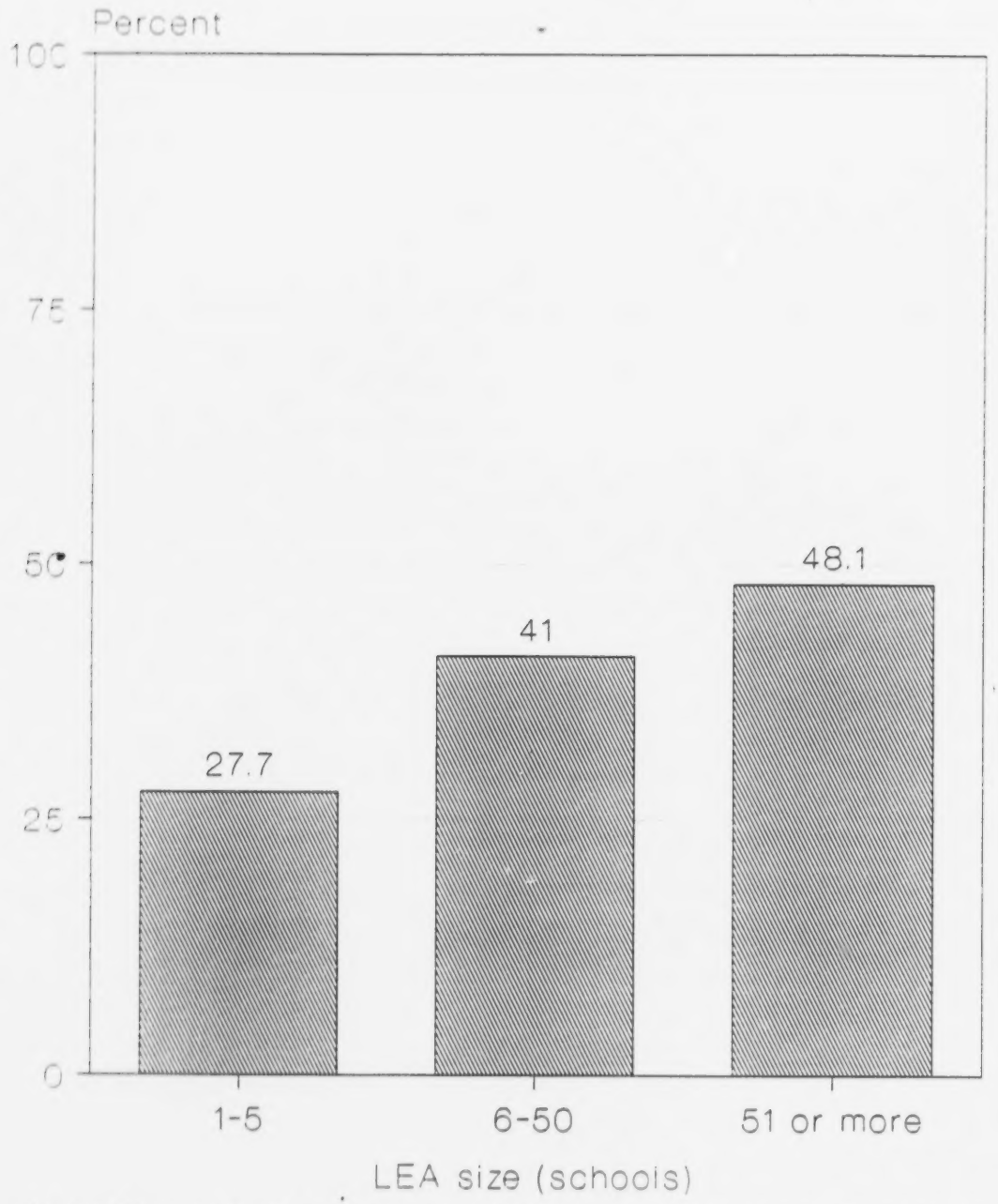
SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Figure 2.--Percent of schools that use one or more incentive programs, by school size



SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Figure 3.--Percent of schools that use one or more incentive programs, by LEA size



SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

One possible explanation for larger schools and LEAs being more likely to offer incentive programs is that these schools may tend to be in large urban areas and may therefore have more difficulty attracting and retaining qualified teachers. Unfortunately, the Public School Survey did not ask administrators to describe the urbanicity of the area in which their school was located.[7]

Another indication that a school is in a large urban area is the percentage of minority students in the school. The results of an analysis of teacher incentive program offerings, by percentage minority students, is shown in figure 4. While only about 32 percent of schools with less than 15 percent minority students offered one or more teacher incentive program, about 41 percent of schools with between 15 and 49 percent minority students offered incentive programs, and over half of the schools with more than 50 percent minority students offered incentive programs. This result, along with the analysis of school size above, indicates that large schools and schools with high percentages of minority students are more likely to offer incentives to teachers than other types of schools, lending support to the hypothesis that these schools are likely to be in large, urban areas.

Teacher incentive programs are designed to affect the supply of teachers by making teaching a more attractive profession for qualified individuals. A labor market view of teacher supply would argue that "each of the major components of teacher supply can be viewed as being made up of subcomponents corresponding to geographical areas such as states and metropolitan areas."[8] An analysis of the use of teacher incentive programs by geographical region indicates that States in the West and South are more likely to offer these programs than States in the North central or Northeast regions. While 44 percent and 49 percent, respectively, of schools in the South and West offered one or more incentive programs for their teachers, only 27 percent and 32 percent, respectively, of schools in the North central and Northeast regions had programs (see figure 5 and table 1).

Some instructional characteristics of schools were also examined in order to determine their relationship to the use of teacher incentive programs (see table 1). The ratio of the number of full-time-equivalent (FTE) teachers to the number of students in the school (teacher/pupil ratio) was examined. Also analyzed was the ratio of the number of FTE teachers to the number of FTE instructional aides in the school. Neither of these instructional variables was found to be related to the use of teacher incentive programs.

In summary, school characteristics related to the use of one or more teacher incentive programs in public schools include size of school, size of LEA, percent minority students, and geographical region. Although the hypothesis cannot be directly tested using this survey, the combination of these factors suggests that large schools in urban areas are most likely to use teacher incentive programs.

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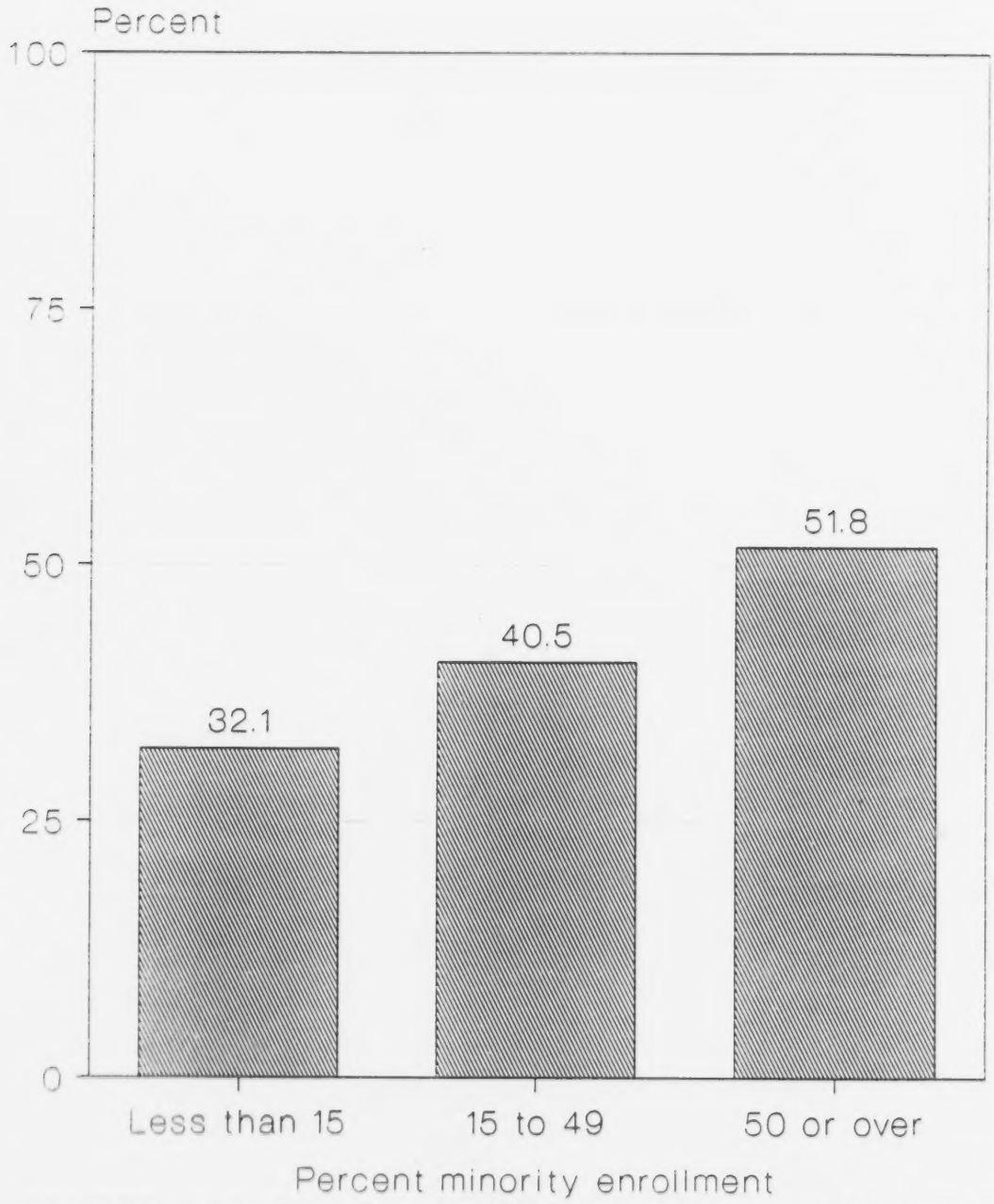
[7] The National Center for Education Statistics' new survey of LEAs, schools, administrators, and teachers, the 1987-88 Schools and Staffing Survey, will provide detailed information on the urbanicity of the area in which schools are located, in order to permit this type of analysis.

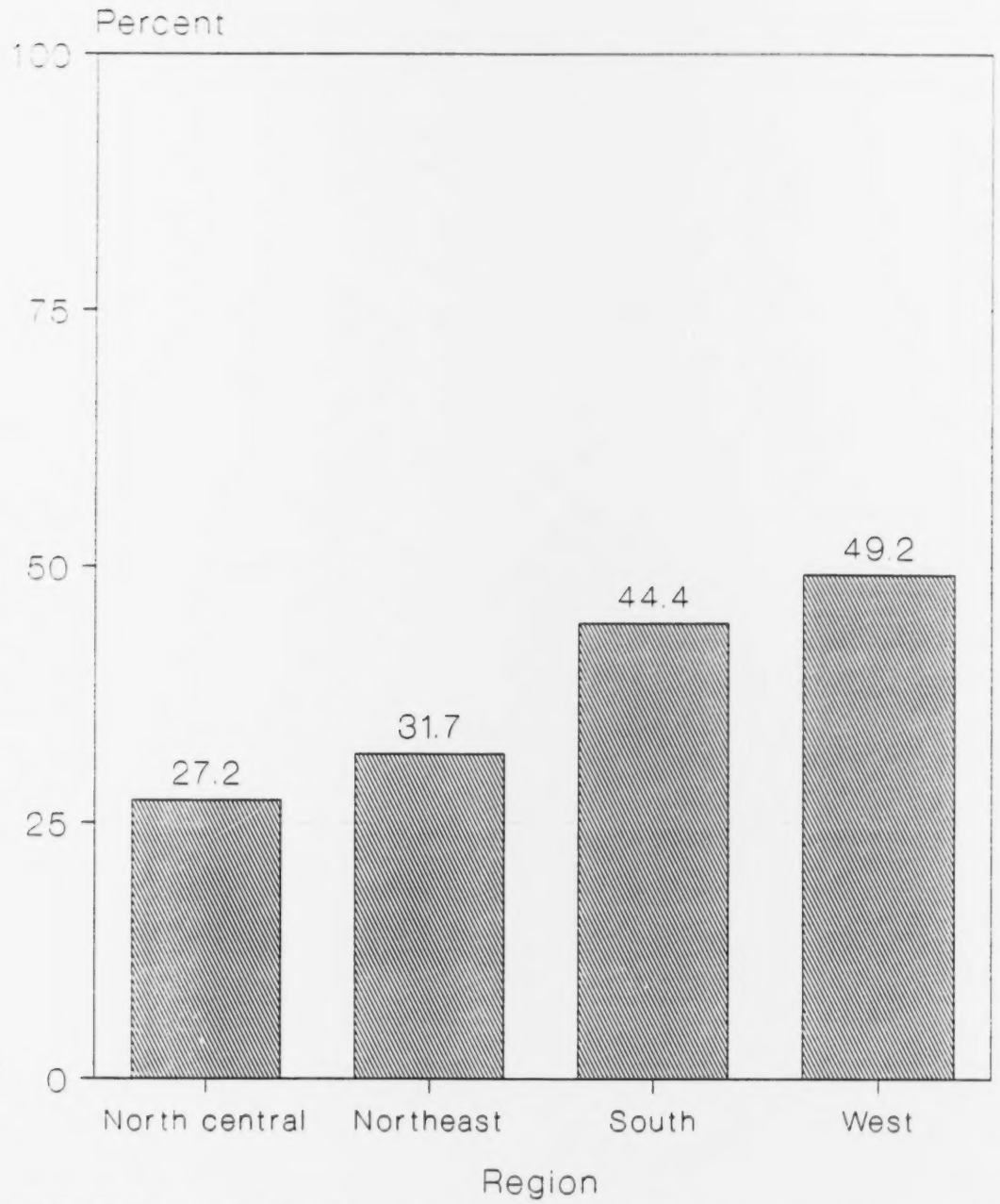
[8] Haggstrom, G.W., Darling-Hammond, L., and Grissmer, D.W., *Assessing Teacher Supply and Demand*, the Rand Corporation, May 1988, pp. 34-35.

Figure 4.--Percent of schools that use one or more incentive programs, by minority enrollment



SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Figure 5.--Percent of schools that use one or more incentive programs, by region



SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985

Teachers in Schools with Incentive Programs

- Less than half of all public school teachers work in schools which offer one or more teacher incentive programs.
- Minority teachers are more likely to work in schools offering teacher incentive programs than white, non-Hispanic teachers.

Not surprisingly in light of the dearth of incentive programs in schools, around 58 percent of public school teachers (about 1,108,945 teachers) work in schools which have no incentive programs for teachers. The other 42 percent (about 791,179 teachers) work in schools which have one or more teacher incentive programs.

Table 3 shows the number and percent of teachers in public schools with and without incentive programs, by selected teacher characteristics. Similar to table 1, for those schools which offer any incentive programs, this table is further subdivided by the number of specific incentive programs offered.

Corresponding to table 2, table 4 shows the percentage of teachers (out of those teachers who work in schools that use any incentive programs) who work in schools which use each of the specific incentive programs, by selected teacher characteristics. The results of this table parallel the results of table 2. Of the 791,179 teachers who work in schools which offer one or more programs, relatively few teachers work in schools which offer a shared program with industry or a loan forgiveness program (7.4 percent and 10.8 percent, respectively). More teachers work in schools which use released time, different step on the salary schedule, and award recognition (46.5 percent, 46.5 percent, and 49.5 percent, respectively).

A comparison of characteristics of teachers who work in schools which do and do not offer any incentive programs revealed few differences. No differences were found in the percentage of teachers in schools which offer incentive programs, by sex of the teacher, the highest degree the teacher had earned, his/her undergraduate major, years of experience, or participation in training during the previous year. The one teacher characteristic which was related to working in a school with incentive programs was teacher minority status. As figure 6 shows, 40 percent of teachers who described themselves as white, non-Hispanic worked in schools which offered incentive programs. Minority teachers[9] were more likely to work in schools which offered one or more incentive programs. Almost half of the minority teachers surveyed worked in schools which had teacher incentive programs.

The finding that the teacher's degree level, type of degree, years of experience, and participation in training were not related to the use of teacher incentive programs should be viewed in light of the fact that the Public School Survey does not provide information on several relevant factors, including the following: what percentage of teachers participated in or were eligible for the programs; the size of monetary rewards in relation to average salaries; the nature of nonmonetary rewards (e.g., what other privileges or perquisites accompany movement up a career ladder); and, whether the rewards were temporary or permanent. In order to provide a more complete understanding of the effects and effectiveness of teacher incentive programs, future studies on this topic should consider incorporating these factors.

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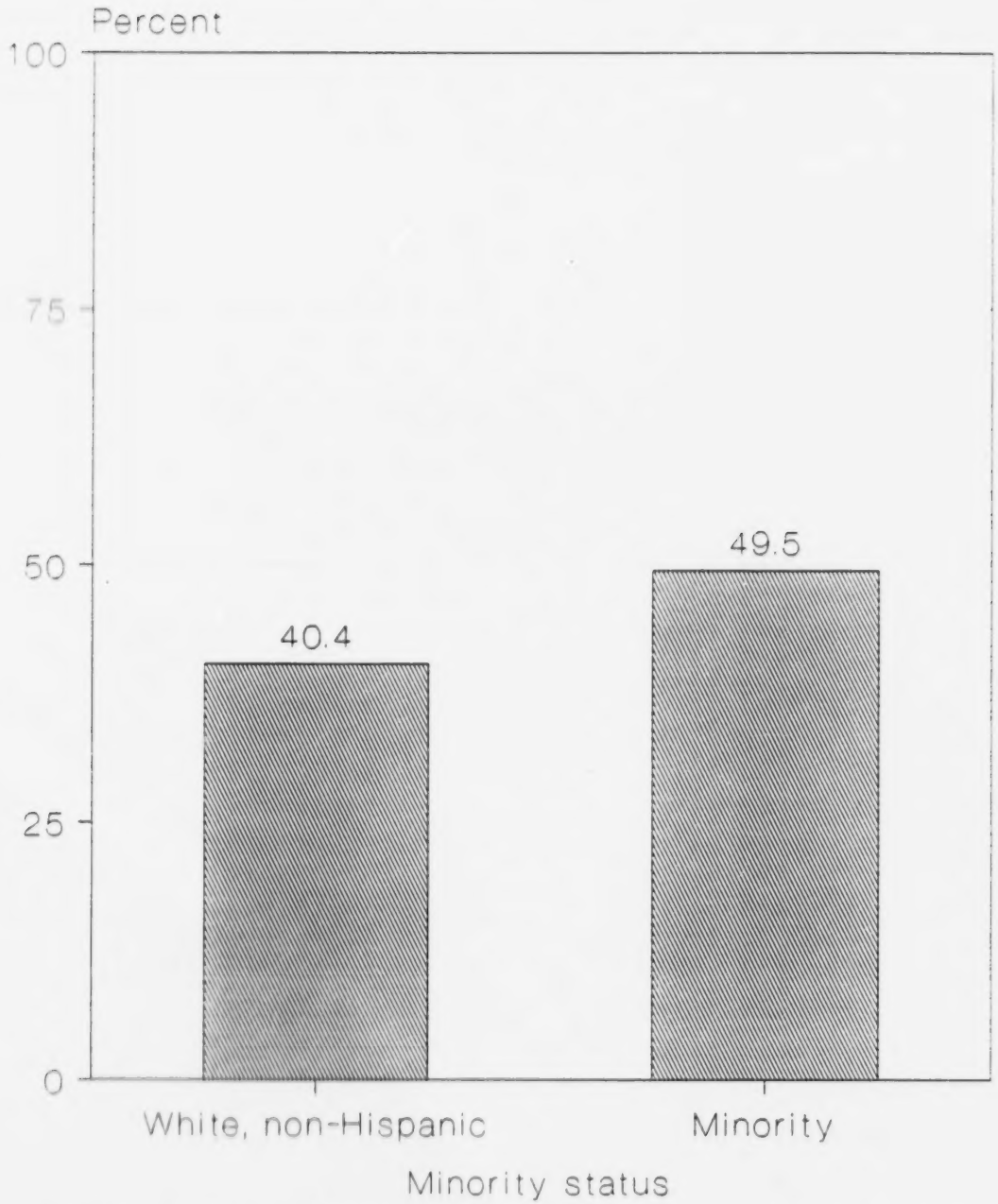
[9] A definition of "minority teacher" may be found in the technical appendix at the end of the report.

Figure 6.--Percent of teachers in schools that use one or more incentive programs, by minority status



SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Administrators Rate Specific Programs

For each of the ten specific incentive programs listed in the questionnaire (including other), administrators were asked whether or not they used that incentive program for any or all of the following purposes:

- to attract teachers to a less desired location,
- to retain experienced teachers,
- to recruit teachers for fields of shortage, and
- to reward excellence.

Administrators who responded that they used a specific program for one or more of these purposes were then asked to state the degree to which they felt that the program was effective for that purpose, by rating the program as productive, counterproductive, or making no difference in achieving the purpose. Table 5 shows the percentage of administrators who used each program for each purpose. It also shows the percent of those administrators who said that a program was productive in accomplishing that purpose.

Not surprisingly, most of the administrators who used any of the programs for any of the purposes felt that the program was productive in accomplishing the purpose. In every case, more than half of the administrators said that a program that they used was productive in accomplishing the desired purpose. Naturally, if an administrator felt that an incentive program was making no difference or even counterproductive, he or she would be likely to recommend discontinuing the program. The ratings overall ranged from 54.5 percent productive from administrators who used award recognition to attract teachers to a less desired location to 94.8 percent productive from administrators who used other incentives to retain experienced teachers.

In an effort to summarize the information provided in table 5, weighted averages of the ratings were calculated for each program, collapsed across purposes; weighted averages of the ratings were also calculated for each purpose, collapsed across programs. These marginal ratings were then compared across programs first, and purposes next. No differences in the administrators' weighted average rating not attributable to sampling error could be found either among programs or among purposes. This is likely due to the lack of variability among the administrators' responses--most of the administrators thought that their programs were productive. Also contributing to this failure to detect any differences in the administrators' ratings by program or purpose is the small number of schools in this survey which used incentive programs, resulting in large standard errors.

In summary, although administrators' ratings of the effectiveness of incentive programs would provide valuable information to policymakers, data from the Public School Survey are not sufficiently variable and are not based on sufficiently large sample sizes to draw conclusions about the relative effectiveness of the various programs. The problem remains that administrators who have an incentive program are likely to say that it is productive. Perhaps future surveys should enquire whether administrators have discontinued the use of specific incentive programs, and ask them to rate both current programs and discontinued ones. In addition, a more thorough understanding of teacher incentive programs would be possible if future surveys asked administrators what they would do today if they were starting from scratch, how they would modify existing programs to strengthen them, and what they saw as the strengths and weaknesses of each of various incentive programs.

Conclusion

The Public School Survey provides estimates of the number of schools which use teacher incentive programs, characteristics of those schools, and characteristics of teachers who teach in those schools. Concern about education quality has focused attention on efforts to attract and retain qualified teachers. The results in this report can provide a baseline for current and future research on teacher incentive programs, especially since the use of incentive programs may be changing rapidly in light of education reforms. In addition, the survey shows the relative degree of use of specific types of incentive programs, such as loan forgiveness and free retraining. Although the survey can give estimates of administrators' ratings of the effectiveness of these programs, these estimates are somewhat problematical. Future research may develop a better way to determine the effectiveness of teacher incentive programs, perhaps incorporating some of the suggestions made in this report.

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Technical Notes

The Public School Survey

The Public School Survey was conducted by mail during the late winter and spring of 1985 by Research Triangle Institute, Inc. Information was requested from a nationally representative sample of 2,801 schools and 10,650 of their teachers. The school-level information, obtained from school administrators, included data on enrollment, staffing, use of aides and volunteers, teacher incentive programs, computer use, advanced placement programs, and other topics. The information requested from teachers included items on the use of teachers' time, teacher training and experience, current teaching assignments, use of paid aides and unpaid volunteers, amount of homework assigned, and teacher salaries. This report is based upon responses to selected items from the administrator and teacher questionnaires.

The sample of schools was selected from the National Center for Education Statistics' Common Core of Data (CCD) universe of public elementary and secondary schools. As the first step in the sampling procedure, nine strata of school were defined, based on three school types (elementary, secondary, and other) and three categories of district size (1-5 schools, 6-50 schools, and over 50 schools). Sample schools were selected independently within each stratum with probability proportional to the square root of each school's full-time-equivalent number of teachers.

Samples of teachers were selected from lists supplied by the schools and were stratified by elementary teachers, teachers of science or mathematics, and others. All teachers employed at sample schools with four or fewer teachers were in the sample. A sample of four teachers was selected from each of the remaining sample schools. The selection of four teachers per school, while achieving the desired overall sampling rates for the teacher strata, was accomplished through a two-stage within-school sampling process. First, for each of the four sample teachers for a given school, a random choice was made of the stratum from which the teacher was to be selected. A teacher was then randomly selected from the stratum selection. The selections of strata were made, separately within each sample school, with probability proportional to size.

Survey mailing began in February 1985 and continued into the late spring of 1985. Followup efforts included additional questionnaire mailings and telephone prompts. The school administrator and teacher surveys were closed out in June, with response rates of 84.6 percent and 80.0 percent, respectively. Because of school nonresponse, approximately 11 percent of the teacher sample could not be linked to the sample of schools. This occurred in situations in which the teachers selected from a certain school responded to the teacher questionnaire, but the school did not respond to the administrator questionnaire.

Weighting of Observations

The sample design is such that the probability of selection varies among categories of teachers and schools. These unequal probabilities must be taken into account in the analysis by weighting each observation appropriately; otherwise, some types of teachers and schools would receive more or less weight than warranted by their representation in the population, and the results would not be typical of the Nation as a whole. The weight assigned to a sample member (an administrator or teacher) is an inflation factor which determined the member's contribution to an estimated population total or some other estimate of interest. Specifically, the analysis weight for a sample member is the reciprocal of its probability of selection (known as its initial or sampling weight), adjusted to account for survey nonres-

ponse. All estimates in this report, including estimates of standard errors, are based on weighted computations in which the weights reflect the sampling probability associated with each observation.

Variable Definitions

The following definitions link each variable used in this analysis to the corresponding item(s) on the administrator or teacher questionnaire:

School Variables

Incentive programs

The response to Public School Administrator item 22, "Indicate below ALL the incentive programs currently in use in your school, the PURPOSE(S) for which each is used, and your RATING of the effectiveness of each incentive used. NOTE: We are interested in ALL incentive programs currently in use in your school, regardless of how successful they appear to be. INSTRUCTIONS: --Check the purposes ('Used" box) for each type of incentive used by this school, regardless of the source of funds; --For each purpose and type of incentive checked as 'USED,' rate your opinion of its effectiveness by entering a 1, 2, or 3 on the line provided. Use the following scale for evaluating the effectiveness:

1 = Productive
2 = No Difference
3 = Counterproductive

Used Rating
(Example: a. Cash Bonus.....|x| __1__)"

Teaching level

Based on Public School Administrator item 9, "Check each grade in which instruction is offered in this school, whether or not there are any students enrolled in that grade."

The schools' teaching levels were coded as "elementary" if the highest grade in the school was less than grade nine; schools' teaching levels were coded as "secondary" if the lowest grade was higher than grade eight; other schools' teaching levels were coded as "combined."

School size

The response to Public School Administrator item 1, "How many students were on the official membership roll of this school on or about October 1, 1984? Number of students:_____"

School were grouped into six size categories based upon their response to this item. The categories were: less than 300 students; 300 to 499 students; 500 to 749 students; 750 to 999 students; 1,000 to 1,499 students; and, 1,500 or more students.

Size of LEA

The category into which the district is classified according to the number of schools it operates: small (1 to 5 schools), medium (6 to 50 schools), and large (over 50 schools).

Region

One of the Census Bureau's four regional State groupings-- Northeast, North Central, West, or South--according to the State in which the schools are located, as follows:

Northeast	North central
Maine	Ohio
New Hampshire	Indiana
Vermont	Illinois
Massachusetts	Michigan
Rhode Island	Wisconsin
Connecticut	Minnesota
New York	Iowa
New Jersey	Missouri
Pennsylvania	North Dakota
	South Dakota
	Nebraska
	Kansas
West	**South**
Montana	Delaware
Idaho	Maryland
Wyoming	District of Columbia
Colorado	Virginia
New Mexico	West Virginia
Arizona	North Carolina
Utah	South Carolina
Nevada	Georgia
Washington	Florida
Oregon	Kentucky
California	Tennessee
Alaska	Alabama
Hawaii	Mississippi
	Arkansas
	Louisiana
	Oklahoma
	Texas

Percent minority

The response to Public School Administrator item 3, "What is the estimated percentage of students attending this school who are members of a minority group? Minority groups include: American Indian or Alaskan Native, Asian or Pacific Islander, Black, and Hispanic. (Check box for appropriate percentage below.)

1. None
2. Less than 5%
3. 5-14%
4. 15-24%
5. 25-49%
6. 50-74%
7. 75-89%
8. 90% or more."

These categories were collapsed into three categories, roughly corresponding to low, medium, and high percentage minority enrollment, for the analyses in this report. These three categories are: less than 15 percent, 15 to 49 percent, and 50 percent or more.

FTE teacher:student ratio

Based on the response to Public Administrator item 1, described above, and Public School Administrator item 4, "For each of the categories listed below, enter the full-time-equivalent (FTE) number of PAID EMPLOYEES regularly assigned to work in this school on or about October 1, 1984." This variable was calculated as the number of FTE teachers divided by total student enrollment.

FTE teacher:FTE instructional aide ratio

Based on the response to Public Administrator item 4, described above. This variable was calculated as the number of FTE teachers divided by the number of FTE instructional aides.

Teacher Variables

The teachers who were used in the analysis of the variables listed below were limited to those who could be linked to school-level data. About 7,076, or 94.2 percent, of the sample of 7,500 public school teachers could be linked to school-level data.

Sex

The response to Public School Teacher item 34, "What is your sex?
1. Male
2. Female"

Minority status

The response to Public School Teacher item 33, "To which one of the following racial/ethnic groups do you belong? (Check one.)
1. American Indian or Alaskan Native
2. Asian or Pacific Islander
3. Black (not of Hispanic origin)
4. White (not of Hispanic origin)
5. Hispanic"

For these analyses, those who indicate responses 1, 2, 3, and 5 have been grouped into a single "minority" category.

Highest degree earned

Based on Public School Teacher item 1, "Mark the box below for the highest academic degree you have earned. (Do not include honorary degrees.)
1. No degree
2. Associate degree
3. Bachelor's
4. Master's
5. Doctorate"

The few teachers who selected responses 1 and 2 were combined into an "other" or "less than bachelor's" category. Teachers with doctoral degrees, also a very small percentage of respondents, were combined with teachers with master's degrees to form the category, "Master's/Ph.D."

Undergraduate major

The field reported in Public School Teacher item 2, "What was (were) your major field(s) of study for your BACHELOR'S DEGREE(s)? (If you had more than one major, specify all that apply.)" Responses were grouped as "Education" or "Non-education," and teachers were coded as having an education major, a non-education major, both (dual degree), or no bachelor's degree.

Years of experience

Length of time reported in part (a) of Public School Teacher item 8, "How many years of elementary/ secondary school teaching experience in public and private schools will you have completed at the end of this school year? (Exclude practice and substitute teaching. Count each year in which you did any part-time teaching or taught for only part of the year as one year of part-time teaching experience.)
a. Years of full-time teaching experience _____
b. Years of part-time teaching experience _____."

Teachers were divided into six experience categories based upon their response to part a: less than 6 years of experience, 6 to 10 years of experience, 11 to 15 years of experience, 16 to 20 years of experience, 21 to 25 years of experience, and over 25 years of experience.

Training

The response to Public School Teacher item 4, "During the 1984 calendar year (January 1, 1985-December 31, 1984) did you take any courses or other training related to elementary/ secondary education?" and item 5, "What kind of training was this? (Check all that apply.)
1. College credit courses
2. In-service training
3. Other (specify) _____"

Accuracy of Estimates

The estimates presented in the tables are based on samples and are subject to sampling variability. Caution should be exercised in interpreting statistics based on relatively small numbers of cases, as well as in interpreting small differences between estimates. If the questionnaires had been sent to different samples, the responses would not have been identical; some numbers might have been higher, others lower. The standard errors in the tables provide indications of the accuracy of each estimate. The standard errors were estimated using a Taylor Series approximation. Standard errors of the weighted averages in table 5 were estimated as a function of the estimates and standard errors of the administrators' ratings and the percent of use. If all possible samples of the same size were surveyed under identical conditions, a range of plus or minus one standard error about the estimate would include the "true" population value of the variable in about two-thirds of the samples; a range of plus or minus two standard errors would include the population value about 95 percent of the time. Note, however, that the standard errors in the tables do not take into account the effects of biases due to nonresponse, measurement error, processing error, or other systematic error that could occur even in a complete ("universe") survey.

Significance Tests

In this report, all comparisons cited in the text are statistically significant at the .05 level of significance unless otherwise noted. The phrase "no differences were found" indicates that the difference was not statistically significant at the .05 level. A Bonferroni adjustment was used for each set of comparisons to ensure that the overall alpha level did not exceed .05.

There are hazards in performing statistical tests for each comparison. When making several z tests, it becomes increasingly likely that at least one of them will give a misleading result. When there is really no difference between the means or percentages being compared, there is still a 5 percent chance of getting a z value of 1.96 from sampling error. Although this 5 percent risk seems acceptable for a single z test, the risk of getting at least one z value of 1.96 in a series of z tests goes up alarmingly. For five z tests, the risk of getting one misleading t score grows to 23 percent; for ten z tests, it grows to 40 percent; and for 20 z tests, the risk of getting one z value of 1.96 from sampling error increases to 64 percent. The risk of finding a significant z score as a result of sampling error decreases for z scores over 1.96.

There is a balance between making multiple tests, one of which can then give misleading results, and making few tests under stringent control of error rates, a strategy likely to fail to find differences when they exist. There is no simple solution to this dilemma for a descriptive, exploratory report.

For More Information

For more information about this report or the NCES Public School Survey, contact Sharon A. Bobbitt, Elementary and Secondary Education Statistics Division, U.S. Department of Education, 555 New Jersey Avenue NW, Washington DC 20208-5730; telephone (202) 357-6461.

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Table 1.--Number and percent of public schools using one or more teacher incentive programs, by selected school characteristics: 1985

School characteristic	Total schools		Number of specific incentive programs used							
			None		1 or more		1	2-3	4-5	6 +
	Number	Percent	Number	Percent	Number	Percent	Percent	Percent	Percent	Percent
Total	81,357	100.0	50,815	62.5	30,542	37.5	25.4	50.3	18.5	5.7
School level										
Elementary	57,571	100.0	36,159	62.8	21,411	37.2	26.9	51.6	16.2	5.3
Secondary	11,708	100.0	6,692	57.2	5,016	42.8	17.9	50.3	25.8	6.0
Combined	12,078	100.0	7,964	65.9	4,115	34.1	26.7	43.7	22.1	7.5
School size										
Less than 300 students	26,099	100.0	17,892	68.6	8,208	31.4	23.5	52.2	16.6	7.8
300-499 students	25,571	100.0	15,995	62.6	9,576	37.4	28.8	49.9	17.5	3.9
500-749 students	16,564	100.0	10,461	63.2	6,096	36.8	28.0	50.3	17.6	4.2
750-999 students	6,516	100.0	3,404	52.2	3,111	47.7	22.8	52.1	19.9	5.2
1,000-1,499 students	4,115	100.0	2,059	50.0	2,056	50.0	19.9	42.7	27.7	9.7
1,500 or more students	2,491	100.0	1,005	40.3	1,486	59.6	16.8	50.3	24.8	8.1
Size of LEA										
Small (1-5 schools)	28,192	100.0	20,375	72.3	7,817	27.7	28.0	56.2	13.8	4.0
Medium (6-50 schools)	39,966	100.0	25,115	62.8	16,375	41.0	23.5	51.5	19.8	5.2
Large (51 schools or more)	13,200	100.0	6,850	51.9	6,350	48.1	27.2	42.4	21.2	9.2
Region										
West	15,084	100.0	7,667	50.8	7,417	49.2	23.5	48.3	18.3	9.9
North central	26,601	100.0	19,363	72.8	7,238	27.2	24.0	51.8	20.6	3.7
Northeast	13,596	100.0	9,292	68.3	4,305	31.7	25.4	53.8	18.1	2.8
South	26,075	100.0	14,493	55.6	11,582	44.4	27.5	49.4	17.6	5.5
Percent minority										
Less than 15 percent	48,830	100.0	33,060	67.7	15,687	32.1	27.5	50.3	18.1	4.6
15 to 49 percent	18,487	100.0	10,991	59.5	7,495	40.5	18.5	57.3	17.3	6.9
50 percent or more	14,041	100.0	6,763	48.2	7,278	51.8	28.1	43.7	21.1	7.1
FTE teacher:student ratio										
Less than 1:16	19,452	100.0	13,066	67.2	6,386	32.8	25.1	49.1	17.8	8.1
1:16 to 1:20	34,565	100.0	21,241	61.5	13,325	38.5	23.8	50.5	20.6	5.1
More than 1:20	27,339	100.0	16,509	60.4	10,831	39.6	27.5	50.9	16.5	5.1
FTE teacher:FTE instructional aide ratio										
Less than 5:1	21,149	100.0	12,494	59.1	8,654	40.9	24.8	49.5	19.1	6.6
5:1 to 12:1	24,264	100.0	14,534	59.9	9,730	40.1	25.3	50.2	17.2	7.2
More than 12:1	35,945	100.0	23,787	66.2	12,158	33.8	25.8	51.0	19.2	3.9

NOTE: The percentages in the last four columns are based upon the number of schools in category three which used 1 or more incentive programs (i.e., the 30,542 schools in row one).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 2.--Number and percent of public schools using specific incentive programs, by selected school characteristics: 1985

School characteristic	Any program		Specific incentive program used (in percentages)									
	Number	Percent	Cash bonus	Different step	Free retraining	Award recognition	Loan forgiveness	Released time	Shared program w/industry	Extended contract	Leave of absence	Other incentive program
Total	30,542	100.0	24.7	44.8	23.1	44.3	9.0	47.5	6.1	17.2	31.4	15.6
School level												
Elementary	21,411	100.0	24.5	44.4	21.8	43.4	7.3	48.3	5.4	12.8	31.1	14.0
Secondary	5,016	100.0	24.7	47.9	23.7	52.6	11.5	46.2	8.9	31.2	33.6	16.8
Combined	4,115	100.0	25.5	43.5	29.1	38.8	14.7	45.4	6.6	23.2	30.3	22.3
School size												
Less than 300 students	8,208	100.0	20.3	50.0	25.0	43.5	7.8	52.1	6.2	16.3	37.5	9.8
300-499 students	9,577	100.0	23.0	39.3	18.7	42.4	7.6	50.3	6.3	14.6	28.7	14.4
500-749 students	6,104	100.0	24.7	41.5	21.0	42.4	9.2	44.4	4.4	18.0	29.8	20.8
750-999 students	3,111	100.0	33.5	54.7	26.7	38.9	8.8	35.0	5.2	17.2	24.7	21.7
1,000-1,499 students	2,057	100.0	35.2	47.2	31.4	59.1	16.3	47.1	9.2	25.6	33.3	15.9
1,500 or more students	1,486	100.0	27.3	42.0	30.5	59.6	13.4	44.8	9.5	25.3	32.2	20.5
Size of LEA												
Small (1-5 schools)	7,817	100.0	15.8	47.3	23.1	34.1	5.1	49.4	7.4	19.1	27.9	13.3
Medium (6-50 schools)	16,375	100.0	25.0	46.2	22.0	45.9	9.3	50.0	5.1	15.6	32.9	14.4
Large (51 schools or more)	6,350	100.0	34.7	38.5	25.9	52.7	12.9	39.0	7.3	19.3	31.7	21.6
Region												
West	7,417	100.0	23.0	39.6	24.5	43.7	9.9	59.3	3.5	17.5	31.5	25.6
North central	7,238	100.0	12.0	42.1	21.5	53.5	3.8	59.0	8.2	15.6	34.7	9.3
Northeast	4,304	100.0	8.2	38.2	28.5	30.7	8.2	48.5	11.6	19.4	47.2	13.7
South	11,582	100.0	39.9	52.4	21.2	43.9	11.9	32.5	4.5	17.3	23.3	13.9
Percent minority												
Less than 15 percent	15,769	100.0	17.9	45.5	23.0	42.6	5.2	50.4	6.5	17.6	32.5	13.9
15 to 49 percent	7,495	100.0	30.4	45.2	23.1	46.5	12.1	46.3	3.3	18.3	34.1	16.4
50 percent or more	7,278	100.0	33.5	43.1	23.2	45.8	13.8	42.7	8.3	15.4	26.2	18.5
FTE teacher:student ratio												
Less than 1:16	6,386	100.0	21.4	46.4	23.1	43.8	12.5	52.9	6.3	20.7	32.3	11.6
1:16 to 1:20	13,325	100.0	27.0	49.8	21.9	44.8	9.8	45.0	7.4	19.3	30.6	12.1
More than 1:20	10,831	100.0	23.9	37.8	24.6	44.0	5.8	47.5	4.5	12.7	31.8	22.2
FTE teacher:FTE instructional aide ratio												
Less than 5:1	8,654	100.0	21.9	39.4	26.6	44.0	10.8	54.2	7.0	15.2	33.1	18.5
5:1 to 12:1	9,730	100.0	27.1	41.2	18.9	46.1	8.3	48.3	6.5	15.0	31.1	16.1
More than 12:1	12,158	100.0	24.8	50.3	23.9	43.0	8.2	42.2	5.3	20.5	30.4	13.2

NOTE: Percentages add to more than 100 because almost 76 percent of the schools which offered any incentive program offered more than one.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 3.--Number and percent of public school teachers in schools using one or more teacher incentive programs, by selected teacher characteristics: 1985

Teacher characteristic	Total schools		Number of specific incentive programs used							
			None		1 or more		1	2-3	4-5	6+
	Number	Percent	Number	Percent	Number	Percent	Percent	Percent	Percent	Percent
Total teachers	1,900,124	100.0	1,108,945	58.4	791,179	41.6	21.7	50.8	21.1	6.4
Sex										
Male	598,463	100.0	347,111	58.0	251,358	42.0	18.3	52.2	22.3	7.2
Female	1,301,661	100.0	761,834	58.5	539,821	41.5	23.3	50.1	20.5	6.1
Minority status										
White, non-Hispanic	1,644,785	100.0	980,086	59.6	664,709	40.4	21.2	51.4	21.6	5.8
Minority	255,339	100.0	128,859	50.5	126,470	49.5	24.5	47.5	18.1	9.9
Highest degree received										
Bachelor's	977,310	100.0	569,587	58.3	407,710	41.7	21.8	51.7	19.6	6.9
Master's/PhD	904,478	100.0	528,501	58.4	375,976	41.6	21.8	49.5	22.7	6.0
Other	18,355	100.0	10,857	59.1	7,492	40.9	16.2	64.2	18.4	1.1
Undergraduate major										
Education	1,358,684	100.0	800,403	58.9	558,272	41.1	22.5	51.1	20.6	5.8
Non-education	202,344	100.0	111,294	55.0	91,041	45.0	19.3	49.6	23.3	7.8
Dual	318,917	100.0	184,573	57.9	134,334	42.1	20.4	49.7	21.4	8.5
None/other	18,355	100.0	10,857	59.1	7,492	40.8	16.2	64.2	18.4	1.1
Years of experience										
Less than 5	305,939	100.0	170,267	55.7	135,671	44.3	20.3	56.6	16.7	6.4
6-10	426,787	100.0	248,792	58.3	177,999	41.7	21.0	52.9	19.1	7.0
11-15	449,531	100.0	262,310	58.4	187,225	41.6	22.0	50.8	20.9	6.3
16-20	333,871	100.0	201,861	60.5	132,016	39.5	23.5	45.4	26.1	5.1
21-25	189,974	100.0	112,525	59.2	77,449	40.8	22.1	44.8	25.5	7.5
More than 25	194,003	100.0	113,190	58.3	80,811	41.7	21.9	50.8	20.5	6.8
Participation in training										
College credit courses only	327,695	100.0	190,905	58.3	136,779	41.7	20.8	48.8	22.9	7.5
In-service training only	391,122	100.0	215,058	55.0	176,069	45.0	21.4	53.6	19.3	5.7
Other training only	68,100	100.0	40,399	59.3	27,755	40.8	27.9	44.5	16.8	10.8
Combined	379,265	100.0	206,730	54.5	172,532	45.5	24.3	51.5	18.5	5.7
No training	733,904	100.0	455,854	62.1	278,044	37.9	20.2	50.2	23.3	6.3

NOTE: The percentages in the last four columns are based upon the number of teachers in schools in category three which used 1 or more incentive programs (i.e., the 791,179 teachers in row one).

SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 4.--Number and percent of public school teachers in schools using specific incentive programs, by selected teacher characteristics: 1985.

Teacher characteristic	Any program		Specific incentive program used (in percentages)									
	Number	Percent	Cash bonus	Different step	Free retraining	Award recognition	Loan forgiveness	Released time	Shared program w/ industry	Extended contract	Leave of absence	Other incentive program
Total teachers	791,179	100.0	26.6	46.5	23.7	49.5	10.8	46.5	7.4	19.9	31.3	17.3
Sex												
Male	251,358	100.0	22.3	46.9	25.2	50.3	12.3	46.0	8.6	25.6	35.4	19.7
Female	539,821	100.0	28.6	46.3	23.1	49.1	10.1	46.9	6.8	17.3	29.4	16.2
Minority status												
White, non-Hispanic	664,709	100.0	24.7	46.6	23.7	49.5	9.9	48.0	7.5	20.1	32.5	16.6
Minority	126,470	100.0	36.3	46.2	23.9	49.2	15.4	38.3	6.7	18.8	25.1	21.0
Highest degree received												
Bachelor's	407,710	100.0	28.5	47.6	23.5	48.9	10.7	46.1	6.2	19.8	28.3	19.0
Master's/PhD	375,976	100.0	24.5	44.9	24.1	50.3	11.1	47.1	8.8	20.1	34.8	15.3
Other	7,492	100.0	24.9	66.2	20.7	39.5	1.6	33.7	3.3	16.9	20.4	20.3
Undergraduate major												
Education	558,272	100.0	26.6	47.2	21.9	49.7	10.8	45.2	7.0	18.3	30.7	17.0
Non-education	91,041	100.0	28.4	49.8	24.4	50.4	12.6	50.3	8.5	24.5	26.7	20.0
Dual	134,334	100.0	25.4	40.4	31.2	48.5	10.2	49.9	8.7	23.6	37.3	16.3
None/other	7,492	100.0	24.9	66.2	20.7	39.5	1.6	33.7	3.3	16.9	20.4	20.3
Years of experience												
Less than 5	135,671	100.0	19.3	17.9	16.7	17.4	16.4	15.4	15.7	18.0	14.0	16.4
6-10	177,999	100.0	31.6	50.5	20.8	49.7	10.9	45.3	6.6	19.5	29.3	15.7
11-15	187,225	100.0	22.7	50.0	22.7	47.4	11.2	48.1	7.4	20.7	32.9	14.7
16-20	132,016	100.0	24.4	40.2	22.6	50.7	10.1	48.2	8.6	19.0	34.0	22.5
21-25	77,449	100.0	25.6	41.9	31.2	49.5	11.4	53.6	8.1	20.8	34.8	15.5
More than 25	80,811	100.0	23.4	40.9	28.5	50.8	11.2	43.4	7.5	18.0	33.6	21.4
Participation in training												
College credit courses only	136,779	100.0	23.1	50.9	24.0	50.0	11.7	48.2	7.2	20.4	33.1	20.1
In-service training only	176,069	100.0	32.6	45.7	21.2	48.7	11.1	45.3	7.1	17.5	28.6	16.0
Other training only	27,755	100.0	16.7	44.8	30.6	55.8	18.6	40.1	8.5	28.0	34.9	6.6
Combined	172,532	100.0	24.7	42.3	22.5	46.1	9.1	48.0	7.9	16.6	32.7	18.0
No training	278,044	100.0	26.7	47.6	25.3	51.2	10.4	46.0	7.2	22.4	30.9	17.3

NOTE: Percentages add to more than 100 because almost 76 percent of the schools which offered any incentive program offered more than one program.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 5.--Administrators' ratings of the effectiveness of specific teacher incentive programs, by purpose of incentive: 1985

Incentive program	Purpose of incentive: Attract to less desired location		Retain experienced teachers		Recruit teachers for fields		Reward excellence		Weighted average 1/
	Percent use	Rating	Percent use	Rating	Percent use	Rating	Percent use	Rating	Rating
Cash bonus	4.7	73.3%	8.8	63.1%	3.0	62.4%	17.9	59.8%	62.7%
Different step	9.2	74.1%	32.9	76.6%	8.2	60.6%	12.3	73.2%	73.5%
Free retraining	3.0	90.5%	13.2	86.6%	7.3	84.3%	7.5	76.7%	84.0%
Award recognition	5.1	54.5%	10.6	62.4%	1.5	--	38.5	76.6%	71.7%
Loan forgiveness	4.5	78.0%	3.0	76.6%	3.5	74.9%	1.1	--	76.7%
Released time	5.5	70.1%	35.6	88.8%	4.8	89.9%	18.8	93.2%	88.6%
Shared program with industry	0.8	--	3.5	84.0%	0.9	--	3.1	70.5%	77.7%
Extended contract	2.3	72.2%	10.9	92.2%	3.8	84.8%	6.8	89.2%	88.3%
Leave of absence	4.9	82.0%	25.7	81.9%	4.6	90.3%	10.8	87.3%	84.0%
Other incentives	2.5	--	6.8	94.8%	1.4	--	9.4	80.1%	86.3%
Weighted average	(1)	73.4%	(1)	81.6%	(1)	77.6%	(1)	78.1%	(2)

--Too few cases for a reliable estimate.

1/ Weighted averages are calculated using the percent use values as the weights for the rating values.

2/ Not applicable.

NOTE: Percent use = percentage of schools using any incentive programs that report using the specific incentive program for the stated purpose.

Rating = percentage of administrators who rated the effectiveness of the specific incentive program as "productive" for achieving the stated purpose.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 6.--Standard errors for number and percent of public schools using one or more teacher incentive programs, by selected school characteristics: 1985 (table 1)

School characteristic	Unweighted sample sizes	Number of specific incentive programs used: None		1 or more		1	2-3	4-5	6+
		Number	Percent	Number	Percent	Percent	Percent	Percent	Percent
		Standard errors							
Total	2,301	1,079.4	1.33	1,079.4	1.33	1.88	2.14	1.58	1.00
School level									
Elementary	986	995.1	1.73	995.1	1.73	2.45	2.80	1.98	1.34
Secondary	901	239.1	2.04	239.1	2.04	2.53	3.06	2.59	1.21
Combined	414	350.1	2.90	350.1	2.90	4.90	4.90	4.39	2.00
School size									
Less than 300 students	428	710.2	2.72	710.2	2.72	4.14	4.94	3.55	2.83
300-499 students	503	616.2	2.41	616.2	2.41	3.69	4.08	2.92	1.52
500-749 students	453	420.6	2.54	420.6	2.54	3.98	4.33	3.20	1.56
750-999 students	272	236.3	3.63	236.3	3.63	4.53	5.33	4.33	1.87
1,000-1,499 students	309	144.1	3.50	144.1	3.50	4.24	4.87	4.48	2.65
1,500 or more students	336	79.0	3.17	79.0	3.17	3.20	4.30	3.61	1.95
Size of LEA									
Small (1-5 schools)	545	676.7	2.40	676.7	2.40	4.36	4.84	3.01	2.16
Medium (6-50 schools)	955	768.5	1.92	768.5	1.92	2.60	3.01	2.34	1.40
Large (51 schools or more)	801	299.4	2.27	299.4	2.27	2.92	3.16	2.58	1.68
Region									
West	398	498.4	3.30	498.4	3.30	3.86	4.47	3.25	2.85
North central	620	615.7	2.31	615.7	2.31	3.91	4.71	3.66	1.99
Northeast	401	418.8	3.08	418.8	3.08	4.96	5.81	4.09	1.52
South	882	570.6	2.19	570.6	2.19	3.01	3.20	2.34	1.25
Percent minority									
Less than 15 percent	1,134	860.3	1.76	860.3	1.76	2.88	3.19	2.31	1.39
15 to 49 percent	616	491.1	2.66	491.1	2.66	3.25	4.01	2.75	2.29
50 percent or more	551	399.5	2.85	399.5	2.85	3.50	3.99	3.25	1.68
FTE teacher:student ratio									
Less than 1:16	479	556.6	2.86	556.6	2.86	4.50	4.80	3.41	2.86
1:16 to 1:20	1,033	691.1	2.00	691.1	2.00	2.79	3.24	2.45	1.51
More than 1:20	789	615.9	2.25	615.9	2.25	3.08	3.54	2.59	1.22
FTE teacher:FTE instructional aide ratio									
Less than 5:1	421	609.2	2.88	609.2	2.88	3.85	4.44	3.30	1.89
5:1 to 12:1	593	599.1	2.47	599.1	2.47	3.35	3.91	2.89	2.40
More than 12:1	1,287	658.9	1.83	658.9	1.83	2.78	3.05	2.21	0.83

SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 7.--Standard errors for number and percent of public schools using specific incentive programs, by selected school characteristics: 1985 (table 2)

School characteristic	Unweighted sample sizes	Specific incentive program used (in percentages)									
		Cash bonus	Different step	Free retraining	Award recognition	Loan forgiveness	Released time	Shared program w/ industry	Extended contract	Leave of absence	Other incentive program
		Standard errors									
Total	990	1.77	2.13	1.83	2.11	1.06	2.14	1.12	1.57	2.00	1.47
School level											
Elementary	400	2.31	2.80	2.39	2.77	1.34	2.81	1.50	1.98	2.64	1.82
Secondary	432	2.57	3.06	2.37	3.08	1.67	3.04	1.52	2.91	2.79	2.16
Combined	158	4.37	4.94	4.68	4.74	2.94	5.06	2.15	3.99	4.38	4.51
School size											
Less than 300 students	157	3.83	4.95	4.57	4.89	2.21	4.96	3.06	3.89	4.78	2.61
300-499 students	190	3.30	3.93	3.08	3.96	2.08	4.06	1.93	2.83	3.73	2.86
500-749 students	167	3.66	4.29	3.44	4.24	2.23	4.32	1.77	3.04	3.92	3.50
750-999 students	126	5.18	5.33	4.84	5.09	2.76	5.17	1.94	3.41	4.21	4.70
1,000-1,499 students	152	5.02	4.96	4.70	4.96	3.21	4.92	2.31	4.07	4.43	3.45
1,500 or more students	198	3.73	4.22	4.05	4.28	2.57	4.28	2.27	3.82	3.86	3.33
Size of LEA											
Small (1-5 schools)	170	3.35	4.87	4.45	4.56	1.68	4.88	3.03	3.90	4.31	3.03
Medium (6-50 schools)	415	2.60	3.00	2.46	2.99	1.62	3.01	1.35	2.06	2.88	2.07
Large (51 schools or more)	405	3.01	3.10	2.73	3.20	1.95	3.11	1.65	2.40	2.93	2.66
Region											
West	214	3.75	4.34	3.84	4.41	2.29	4.33	1.27	3.31	4.26	3.81
North central	210	2.90	4.69	3.99	4.71	1.37	4.56	2.67	3.03	4.54	2.28
Northeast	145	2.70	5.54	5.89	4.82	2.98	5.87	4.99	5.53	5.88	3.84
South	421	3.12	3.18	2.44	3.15	1.89	2.91	1.18	2.18	2.58	2.10
Percent minority											
Less than 15 percent	420	2.31	3.16	2.76	3.12	1.27	3.19	1.84	2.38	2.96	2.10
15 to 49 percent	285	3.67	4.04	3.41	4.03	2.42	4.09	1.24	3.08	4.00	2.72
50 percent or more	285	3.77	3.99	3.32	3.92	2.39	3.97	2.09	2.63	3.40	3.06
FTE teacher:student ratio											
Less than 1:16	190	3.80	4.79	4.24	4.74	2.97	4.81	2.01	3.78	4.43	2.63
1:16 to 1:20	451	2.84	3.24	2.76	3.19	1.63	3.23	2.11	2.55	2.94	1.87
More than 1:20	349	2.77	3.36	3.00	3.49	1.33	3.57	1.28	2.16	3.44	2.97
FTE teacher:FTE instructional aide ratio											
Less than 5:1	190	3.39	4.30	4.07	4.33	2.22	4.44	2.92	3.44	4.12	3.38
5:1 to 12:1	264	3.42	3.91	3.15	3.91	2.01	3.91	1.94	2.85	3.72	2.52
More than 12:1	536	2.54	3.01	2.51	2.95	1.42	3.02	1.17	2.14	2.78	1.91

SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 8.--Standard errors for number and percent of public school teachers in schools using one or more teacher incentive programs, by selected teacher characteristics: 1985 (table 3)

Teacher characteristic	Unweighted sample sizes	Number of specific incentive programs used							
		None		1 or more		1	2-3	4-5	6+
		Number	Percent	Number	Percent	Percent	Percent	Percent	Percent
		Standard errors							
Total teachers	7,646	41,981.3	2.21	41,981.3	2.21	1.01	2.11	1.39	1.13
Sex									
Male	2,844	14,664.7	2.45	14,664.7	2.45	1.59	2.61	2.39	1.04
Female	4,802	30,858.5	2.37	30,858.5	2.37	1.02	2.16	1.29	1.40
Minority status									
White, non-Hispanic	6,449	36,606.3	2.23	36,606.3	2.23	0.88	1.88	1.49	0.90
Minority	1,197	8,942.2	3.50	8,942.2	3.50	2.64	3.53	2.56	2.61
Highest degree received									
Bachelor's	3,809	24,990.8	2.56	24,990.8	2.56	1.08	2.23	1.71	1.30
Master's/PhD	3,730	20,484.6	2.26	20,484.6	2.26	1.16	2.31	1.67	1.11
Other	107	1,418.5	7.73	1,418.5	7.73	8.19	9.45	12.67	1.22
Undergraduate major									
Education	5,175	30,605.7	2.25	30,605.7	2.25	1.57	2.18	1.64	1.19
Non-education	977	5,304.5	2.62	5,304.5	2.62	1.91	4.70	3.24	2.08
Dual	1,381	7,399.8	2.32	7,399.8	2.32	2.07	3.84	1.85	1.86
None/other	107	1,418.5	7.73	1,418.5	7.73	8.19	9.45	12.67	1.22
Years of experience									
Less than 5	1,147	9,679.0	3.16	9,679.0	3.16	2.34	3.33	2.15	1.62
6-10	1,600	12,411.4	2.91	12,411.4	2.91	2.20	2.14	1.68	1.80
11-15	1,813	12,375.6	2.75	12,375.6	2.75	1.58	2.19	1.90	1.22
16-20	1,414	6,939.5	2.08	6,939.5	2.08	2.00	3.20	3.26	1.35
21-25	841	4,986.6	2.62	4,986.6	2.62	2.03	3.41	2.45	2.41
More than 25	831	6,986.4	3.60	6,986.4	3.60	2.71	4.88	2.62	1.69
Participation in training									
College credit courses only	1,319	7,071.7	2.16	7,071.7	2.16	2.00	2.97	2.29	1.86
In-service training only	1,526	16,159.2	4.13	16,159.2	4.13	1.49	1.78	1.58	1.54
Other training only	259	2,778.2	4.08	2,778.2	4.08	5.04	4.05	4.24	4.47
Combined	1,445	9,806.3	2.59	9,806.3	2.59	1.71	3.68	1.92	1.28
No training	3,097	14,599.6	1.99	14,599.6	1.99	1.94	2.83	2.52	1.18

SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 9.--Standard errors for number and percent of public school teachers in schools using specific incentive programs, by selected teacher characteristics: 1985 (table 4)

Teacher characteristic	Unweighted sample sizes	Specific incentive program used (in percentages)									
		Cash bonus	Different step	Free retraining	Award recognition	Loan forgiveness	Released time	Shared program w/ industry	Extended contract	Leave of absence	Other incentive program
		Standard errors									
Total teachers	3,319	2.85	2.87	1.58	2.36	1.80	2.19	1.12	1.17	2.52	1.56
Sex											
Male	1,214	2.22	4.34	2.46	2.36	1.91	1.96	1.73	2.52	1.95	2.84
Female	2,105	3.38	2.67	1.57	2.66	2.00	2.64	0.96	0.93	3.10	1.59
Minority status											
White, non-Hispanic	2,721	2.86	2.87	1.53	2.57	1.65	2.02	1.23	1.28	2.31	1.74
Minority	598	3.45	5.57	2.75	3.09	3.31	4.21	1.09	2.11	4.24	1.98
Highest degree received											
Bachelor's	1,669	3.35	2.86	1.55	2.56	2.79	2.09	0.93	1.58	3.14	2.21
Master's/PhD	1,613	2.48	2.98	2.03	2.87	1.13	2.73	1.58	1.17	2.21	1.72
Other	37	10.23	10.47	7.26	12.71	1.73	9.75	1.36	5.85	6.02	10.52
Undergraduate major											
Education	2,199	3.06	2.66	1.37	3.19	1.98	2.20	1.00	1.37	2.86	1.66
Non-education	464	6.41	4.90	3.13	3.26	3.42	4.67	2.44	3.83	3.07	3.23
Dual	618	2.73	4.22	3.37	3.24	1.58	4.88	2.28	1.83	3.26	2.59
None/other	37	10.23	10.47	7.26	12.71	1.73	9.75	1.36	5.85	6.02	10.52
Years of experience											
Less than 5	514	5.18	5.61	2.30	5.36	3.45	3.31	1.78	1.99	4.60	2.68
6-10	710	3.06	3.22	2.04	2.90	1.84	3.32	1.30	2.05	3.71	1.70
11-15	772	2.28	3.49	1.04	2.74	1.73	1.90	1.00	2.37	2.60	1.15
16-20	606	2.62	3.06	2.26	3.04	2.42	4.14	2.56	2.32	1.92	3.41
21-25	351	3.52	4.24	3.11	4.93	2.80	4.04	2.59	2.55	4.02	3.12
More than 25	366	3.29	3.10	3.28	3.04	2.47	4.91	1.25	3.04	2.25	3.56
Participation in training											
College credit courses only	572	3.30	2.98	1.96	3.29	1.85	2.06	1.77	1.77	3.95	2.10
In-service training only	710	3.78	5.27	1.63	3.08	2.63	2.73	1.40	1.51	3.68	2.38
Other training only	110	3.38	8.48	4.34	6.71	5.32	8.41	2.07	7.73	5.24	2.12
Combined	682	3.02	3.17	1.65	3.95	1.60	2.71	2.06	2.26	2.94	2.42
No training	1,245	3.04	2.84	2.40	3.18	1.85	2.82	1.60	1.75	2.37	2.19

SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.

Table 10.--Standard errors for administrators' ratings of the effectiveness of specific teacher incentive programs, by purpose of incentive: 1985 (table 5)

Incentive program	Purpose of incentive: Attract to less desired location		Retain experienced teachers		Recruit teachers for fields		Reward excellence		Weighted average 1/
	Percent use	Rating	Percent use	Rating	Percent use	Rating	Percent use	Rating	Rating
	Standard errors								
Cash bonus	0.82	8.14%	1.15	6.62%	0.59	9.57%	1.53	4.57%	6.48%
Different step	1.25	6.04%	2.02	3.14%	1.12	7.13%	1.32	4.84%	5.38%
Free retraining	0.73	5.20%	1.49	3.74%	0.88	4.47%	1.23	8.79%	9.08%
Award recognition	0.89	8.91%	1.23	6.07%	0.43	--	2.04	2.96%	5.39%
Loan forgiveness	0.75	6.51%	0.65	8.71%	0.67	8.54%	0.34	12.45%	12.45%
Released time	0.97	8.64%	2.08	2.32%	0.84	5.38%	1.67	1.98%	5.96%
Shared program with industry	0.31	--	0.79	8.34%	0.29	--	0.89	12.14%	20.85%
Extended contract	0.48	10.02%	1.22	2.46%	0.71	5.76%	1.12	3.66%	10.03%
Leave of absence	0.87	6.30%	1.89	3.12%	0.92	4.46%	1.35	3.87%	7.19%
Other incentives	0.67	--	1.03	2.21%	0.44	--	1.11	4.49%	11.83%
Weighted average	(1)	7.10%	(1)	3.70%	(1)	7.40%	(1)	4.03%	(2)

--Too few cases for a reliable estimate.

1/ Weighted averages are calculated using the percent use values as the weights for the rating values.

2/ Not applicable.

NOTE: Percent use = percentage of schools using any incentive programs that report using the specific incentive program for the stated purpose.

Rating = percentage of administrators who rated the effectiveness of the specific incentive program as "productive" for achieving the stated purpose.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Public School Survey, 1985.